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TITLE: HOT DIP Zn-Al-Mg ALLOY PLATED STEEL SHEET AND PRODUCTION METHOD THEREFOR

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ABSTRACT:

PROBLEM TO BE SOLVED: To provide a hot dip Zn-Al-Mg alloy plated steel sheet which has good workability, corrosion resistance and durability of adhesion, and a production method therefor.

SOLUTION: In the plated steel sheet, the surface of a hot dip plating film having a composition containing, 2.0 to 7.0% Al, 0.5 to 3.5% Mg and ≤0.5 g/m2 Fe, and the balance Zn with inevitable impurities, and having a crystal structure in which the volume ratio of a Zn-Al-Mg ternary eutectic structure is ≥60%, further, a crystal structure in which the volume ratio of an Al-enriched layer is ≤10% is provided with a chromate treated layer. Alternatively, the plated layer further contains one or more kinds of groups

selected from Ti, Nb, V and Sr by 0.001 to 0.05%. Alternatively, the content
of hexavalent chromium in the chromate treated layer is ≤25 mg/m2 expressed
in terms of metallic chromium. On the production, when the plating bath does
not contain Ti or the like, preferably, cooling is performed at a cooling rate
of ≥15°C/sec till the plating film is perfectly solidified after the
plating.